

Sea Urchin Zone Council Meeting

November 21, 2013 in Bangor

Maine DOT 219 Hogan Road, Bangor, ME

DMR staff: Trisha De Graaf, Troy Dow and Maggie Hunter.

SUZC members: Larry Harris, Tracey Sawtelle, Steve Eddy, Clint Richardson, Joe Leask, Dean Norris, Teresa Johnson, Bill Sutter, Joe Leask and Brian Preney

SUZC member not present: Atchan Tamaki, Chris Buyers, Ian Emery, Chuon Muth, Ed Fagonde, and Killer Smith.

Public: Jim Wadsworth, Jeff Chadwick, Tristan Smith, Walter Kumeiga, Mick Devin, Chris Johnson, James Campbell, Justin Gebo and Thomas Gebo.

Sea Urchin Zone Council Research Subcommittee Meeting

T. De Graaf: I was able to spend a day with Robert Miller a few weeks ago and he reviewed the Habitat-Based Management project that was undertaken about 10 years ago with Nova Scotia urchin harvesters. When originally discussing the plan with industry, Department of Fisheries and Ocean (DFO) officials were not able to get consensus on this approach, so they moved forward with it as an option. Fishermen were able to either keep their open, competitive licenses where they were restricted to one county with limited entry, or could choose to fish an exclusive area to fish. With the exclusive fishing zones there was one license holder per zone, the fishermen were required to make a map of the locations of urchin and kelp resources in the area, were allowed to have 4 divers per boat to assist the license holder, had to harvest a minimum of 4 t of urchins per year in order to retain the area (Use it or lose it), harvested urchins had to be a minimum of at least 50mm, culling was required on the fishing ground, logbooks had to be completed to track catch, location and the number of dives to calculate catch per unit effort (CPUE) and zone audits were to be conducted every 4 years in order to re-negotiate the area. Zone sizes were based on measuring the length of the feeding fronts that were less than 15m in depth using GPS in the summer in skiffs; goal was to get feeding fronts to more than 6m depth. Fronts that were more than 6m in depth were considered to be well managed. If shallower than 6m, then the zone was considered too big for the harvester to manage and a smaller zone would be negotiated. If deeper than 6m, then harvesters could keep their areas and may even be able to negotiate a larger area. The fishermen with these areas started to plot on how they would keep their zones in perpetuity. They pressured the managers and convinced those who were not directly observing what was happening in the field and whom did not effectively communicate with project scientist to fold, letting fishermen have another year or two or even get better zones when that was not what was originally agreed upon. This weakness in management resulted in original contracts being not adhered to.

In conclusion, most of the zones were left either unfished or were not fished/managed to their full potential. After the audits, fishermen opposed downsizing zones when not adequately managed, as had originally been agreed upon at the start of the project as managers lacked the will to reduce the sizes of these zones when warranted. Finally, the disease came through the area and eliminated much of the resource, and fishermen who had been waiting to get into the project were never issued license as they had hoped for. However, there were advantages that came out of the project. The project allowed for fishermen to be able to follow their own harvesting plan, fishing their areas based on weather and markets. Exposed areas were fished during periods of good weather, saving projected areas within their zones for a foul weather harvesting option. The value of the product which was harvested increased as fishermen could harvest when the market price was high. One fisherman even shipped directly to markets in Tokyo, illuminating the middle man. This resulted in lower overfishing costs as fishermen were able to maximize their profits. Since zones were exclusive, the decreased enforcement costs of DFO. Finally, because fishermen were not competing with one another for

product in the regular fishery, they shared information among one another on feeding techniques (bundling kelp and putting rocks on it to feed urchins) that contributed to the net worth of product increasing overall.

D. Norris: This is not telling us all the bad stuff. Most of fishermen got zones that were not previously fished, commercially extinct. Other zones had a spectacular area but couldn't find guys to help harvest. Each fisherman wants to maximize income, and would try to find inexperienced divers that harvest junk but they could pay them less. Problem is the actual guy that knew the urchins didn't actually own the license. Due to law, only "core" license holders could have licenses, and they wanted to make the most money and undercut their inexperienced divers. Didn't use good drags, went for cheaper urchin drags made locally too. The Gaspé shore has flat sand bottom and they harvested all the urchins, and then they were not able to be replenished because the only source was larval settlement – deep water urchins would not come across the sand to get to rocky intertidal. The [Canadian] license does not promote quality, promotes fishing out and moving on to something else.

T. Sawtelle: We don't have the luxury to go when the price is highest. We need to keep the processors going.

D. Norris: Guys in Canada were able to do that because we were supporting the processors here in Maine.

B. Sutter: It is not just the fishermen; it has got to be the processors too. If you can determine a sustainable yield from an area, you need to work with processors on how to harvest an area.

D. Norris: It needs to be a group effort.

B. Sutter: Extraction of resource needs to be over a longer period of time.

D. Norris: We need to do what we can to get an extra shot of urchins to even out the market. If you had these extra urchins you could sell them on a stormy day or when the markets need it most.

B. Sutter: In a project like this, you won't have enough to keep a processor going. These areas won't be all that productive, but you need to determine how best to harvest it.

D. Norris: We need to keep the fishermen going. Harold Cossaboom from Grand Manan did stock enhancement, by taking low quality urchins and moving them.

J. Gebo: Wasn't it only 20% survival?

L. Harris: Leo Murray and other Cobscook draggers moved urchins on their own on the last day of the season and they thought it was very successful. Then, scientists wanted the money to do it the next year and did a transfer, taking urchins from really deep and put them on mud bottom. We dove on it and there were a lot of dead urchins, a lot of mortality. It didn't work very well. A couple of years later I did a similar project where we moved them from mud to a shallower area. Those urchins went from mostly sublegal to legal size within a year. It can be done. You might be able to do what Nova Scotia was able to do in areas down by Isle of Shoals, but every area is unique and it would be nice if there was a way or a mechanism where a group of harvesters who knew the area could try something like this. Scientists should be advisory to the fishermen and let them do it themselves. Need control over an area long enough to make money at it.

D. Norris: Say a dragger brings up a tote worth and bring it to a nice area and go back the next year. Dump all different sizes. 100 lbs. of 4% roe urchins will grow to 10% roe. Half of them may die, but they double their weight.

L. Harris: I am talking about there being no dead urchins. When we did it, they dragged over a muddy area, not rocks and dumped them. Then I went down and documented by photography. They were almost all similar sizes and mostly sublegal urchins. Went back a year later and there were no empty tests/dead urchins on the bottom. Need to dump them on good bottom. There was even feed line of urchins that were part of the study that migrate up to a feed line, but they were not part of transects that were done to document the study.

T. Sawtelle: A couple of guys did this a few years ago. Dumped urchins in a good area from a bad area and left it alone for a year.

J. Gebo: Green crabs in Cobscook are really bad - anything you flip over, they are there.

T. Sawtelle: This year is terrible for green crabs.

L. Harris: Depending on where you go and the particular habitat, there are strategies. I suspect there is hardly any divers who have worked in the GOM who haven't moved urchins around to see if they could enhance roe. There have been lots of trials – some successful, others someone got there first. I would trust the experienced harvesters to come up with the strategy they know best to try to promote opportunities to try things. One other time we tried moving urchins, the DMR was involved. People were lying about how many totes they got. No one put them in the designated area between the buoys. That is what happened there -there wasn't much honesty. I was working with a good harvester only taking from the feed line, but others would rape and pillage and destroy the conveyor belt. You could go through the area and take out the feed line, and they will march up and plump up in a few weeks.

D. Norris: Only takes 3 weeks.

T. Sawtelle: There were boats that wouldn't help, but they were first ones there to harvest the area however! That is the problem with Whiting River.

L. Harris: There are fewer draggers and divers in Zone 1, so it may allow for more experimentation. The Whiting & Denny's Bay (WDB) example has shown that Zone 2 is not ready to do that.

T. Sawtelle: Now there is 8-10 times more fishing in WDB, it has brought everyone to it. It is hard to make something better.

L. Harris: It is a good reason to make smaller zones.

D. Norris: Or to have no zones. The scallop lines drove everyone Downeast.

T. Sawtelle: Drives everyone to one area. Next year the guys from down there want it completely open.

J. Gebo: it is going to take a pounding this year with the 9 days.

T. Sawtelle: That is like opening day last year.

D. Norris: We also lost a few processors last year, so they don't have the ability to process when large volumes come on the market.

B. Sutter: Also they can't find the skilled workers, cutters.

J. Gebo: Cutters get paid on the volume.

J. Wadesworth: When late season opens and Canada starts landing product, they are not going to be able to buy it all.

Tristan: I think they let those people go last year.

B. Sutter: And they can't get them back.

T. Sawtelle: They say they don't like the 2 day week, but when it is 3 days they say they have too many!

B. Sutter: They can buy enough for the week on Mondays and hold them in a freezer. Last year divers went first in WDB and there may have been some advantage going first as buyers won't buy as many the second day. This year it is switched in WDB with draggers going first.

T. Sawtelle: Canada also comes online in October and then there is too much product. We keep getting less money for our urchins.

B. Sutter: The scallop council has started on a Fishery Management Plan (FMP). We are 80% along on ours. Most of our criteria are in place. We have completed the Goals, Objectives, Assessment Information, Management Measures sections – they are all done. What we now need to do is the action plan to achieve the Goals and Objectives. We need to list on each Objective what we are going to address it.

D. Norris: We might be able to use Mick's work for that.

L. Harris: The last page in the FMP is to help achieve the Objectives. Partly what Mick's Bill is about. From my point of view it should be fishermen initiated. Teresa, Steve and I are here in an advisory capacity to help sustain a fishery. I rather fill in and do whatever is necessary to help the fishery happen. You are the ones who have the basic knowledge on the bottom and depending on where you are on the coast; there are a lot of differences to how the system works.

B. Sutter: Now we are getting down to the nitty gritty. DMR does not have the authority to do a lot of these things. We need some legislation to allow some of these things to happen.

D. Norris: We want to be able to encourage a steady supply of urchins to complement the wild fishery.

L. Harris: Page 5 has the management and biological issues. Next time we will start with number one.

D. Norris: A lot of these things will come together and will enhance the biology.

B. Sutter: Our next step is an action plan. We have talked and talked about it. Now what are we going to do about it? Page 5 – we can't do that now. We need to make that possible.

D. Norris: Something we are not able to do now is use the zone council money to do these things.

B. Sutter: The commissioner cannot do these things. He needs the authority.

D. Norris: Ok, then to provide the authority to use the zone council money.

B. Sutter: That is not going to achieve allowing a group of people to take the initiative to do something. Number 2 on list is increase the number of zones – that is in statute and DMR can't change that. Latent licenses, what do you do about those? If you create a zone that requires participation, perhaps they can fish.

L. Harris: One of the issues is that there have been a moratorium on new licenses; however, there are all these licenses that are latent.

T. Smith: That is the best kind of conservation.

L. Harris: Everyone is going to retire out of the fishery.

B. Sutter: In Massachusetts they allow for transfers with a mechanism to reduce the number of licenses over time. The ones that have them, they are transferable.

T. Smith: Until the biomass comes up, you can't give any more licenses. When it gets down to 100 divers and 100 draggers, maybe then you can issue some more. You want to enhance the biomass; it is very limited to what a dragger can do compared to divers.

D. Norris: A good part of our urchin fund comes from the latent guys.

L. Harris: I wasn't saying to eliminate them. But rather that some percentage goes to new people.

T. Smith: That is 20 years down the road.

B. Sutter: You could change the way the fishery was managed to smaller zones and require people to participate.

D. Norris: Need to not use word zones.

T. Sawtelle: Every time there is a discussion about use it or lose it, you will drive people to start to use it.

B. Sutter: For initiatives to create something where there is nothing, the only people who can extract from that are the people who contribute. Perhaps that is venue for new people to participate.

T. Smith: Are they are going to take Steve's hatchery urchins? You need to use cages to keep the crabs out. It is only way other than taking Steve's hatchery urchins.

T. Sawtelle: Where do you put the cages?

B. Sutter: It may be temperature or crab as to why small urchins don't grow up. You may not be able to take Steve's urchins and just throw them out there. They may need cages.

T. Smith: You need to allow people to be pioneers.

B. Sutter: Maybe, but there is no authority right now to allow for that.

T. Smith: Yes there is - the commissioner can issue special licenses.

B. Sutter: Issuing an aquaculture leases is only thing he can do right now.

D. Norris: We need to identify an area in Zone 1 and 2 to work in.

B. Sutter: In areas with nothing in it, say no more free range fishing.

D. Norris: It needs to be an area that is easy to enforce.

B. Sutter: I think you could pick out an area.

T. Smith: I think you need to find out how many people are willing to put in their time and money to do this. Look, there is no one even here now. The State should ask who may want to experiment with sea urchins and let them do what they want.

D. Norris: I think there needs to be a community approach working on an area. You could get a good area and it will be gone if people feel you are taking a good area from them.

T. Smith: You ask where folks want to work and the State puts out a piece of paper and see if anyone has an objective to experiment in that area.

T. Sawtelle: It might not be so bad if someone could get a little help from the DMR instead of getting charged and nit picked from everything little thing.

B. Sutter: The only way to do this now is with an aquaculture lease, and \$100/acre doesn't work right now. There may only be small parts of an aqua lese that you can work on for urchins, so the economics don't work out.

M. Devin: If I thought there was an aquaculture option available to do this, I wouldn't have put the bill in.

B. Sutter: It's a none starter for us. There have been a bunch of changes in the elver laws that make it criminal offence to poach.

T. Sawtelle: They made it so strict because people were making so much money at it. All the sudden they start making money and people are jealous.

L. Harris: We will come up with an agenda for next Research Subcommittee meeting that will address these action items in advance. We are back talking about what we want to do for the FMP. I think it is relevant to go into the debates and discussions we are going to have in the regular meeting.

T. Smith: I only went diving 3 times this year. All of my 3 spots all were full of sea urchins from little to big and I only took about 5% of the legal urchins there. My future is sitting there. Good to see.

J. Leask: I would like to agree with Tristan and I have heard it from Zone 2 divers too. I have seen more urchins and growth than I have seen in a long time. Juveniles to legal, urchins in places where there were none, where there were some there are more – some places they have overrun the ledge. Outside shores where I have not seen people there are older urchins and every size class under them. Bigs and smalls. On exposed sides there were urchins. I have seen a lot more urchins and a lot better size range.

J. Wadsworth: So we don't need the concept bill!

T. Smith: The size limit has done a lot.

D. Norris: We need to keep it to one area to keep an eye on mortality?

T. Johnson: For the FMP, is this set in stone?

T. De Graaf: No, it is a living document. The Scallop Advisory Council (SAC) wants to review and update theirs on an annual basis. It is meant to be a guidance document that can be used by the Legislature, DMR and industry when addressing issues.

B. Sutter: We have stated that it not becomes an actionable regulation such as the federal groundfish FMP that has legal rebuilding timelines. This is not going to be that kind of document.

T. Smith: Something experimental now and can change it later.

B. Sutter: There is no guarantee that these things will be economically successful.

T. Smith: I would like to recommend to the Commissioner should find out who would be interested in this. Take an area, put urchins in a cage and cover with seaweed.

J. Leask: I have put urchins in cages; they really don't like the plastic on the trap wire that was used. But the cage idea is not a bad idea. Any re-seeding idea is not going to be successful with one thing. Maybe we should try shutting down an area naturally? Whatever effort we make, we are only one mass reproduction from having a wide open fishery again.

D. Norris: There are a lot of people who would like to try this if the area was not subjected to poaching. Half of us in here would be happy to do a little movement or augmentation if there were not guys all around you who will take your urchins.

Sea Urchin Zone Council Meeting

Meeting commenced at 5:00pm

Welcome & Introductions

Review of Agenda

Approval of Minutes (10/17/13)

OMMISSION: Second line Bill Sutter was omitted. Page 6. Ed Fagonde's comments about drag fishery not able to occur until after Sept 1 should be changed to October 1.

****Unanimously approved***

DMR Update: 2013-14 Season

M. Hunter: We sample once every other week due to staff shortages. Lessie White is in charge and sampled Oct 21 in Lubec. Not everyone was getting all their 7 trays, about 50/50 that day. He interviewed about 8 divers and 4 draggers. Two weeks later he went to Jonesport, stopped in Machias and Ellsworth, and he couldn't find anyone. Trish went to WDB and everyone had their 7 trays within 1.5 hours or so. Higher roe content than last year, about 14%, \$2.50/lb.

DMR Update: Zone 1 Tote Limit Options

M. Hunter: At last meeting, Briand Preney asked for us to present some information on a tote limit for zone 1. Based on preliminary 2012 harvester logbook data, Zone 1 divers landed on average 8.5 totes while Zone 1 draggers caught 15.1 totes per day. If individual daily diver catches had each been reduced to the following number of trays, a reduction in landings might have been achieved (see tables and slides in Appendix B). This assumes a 90 lb tray for divers, and assumes that fishing behavior is identical to 2012. For an example if all the catches that were more than 10 trays had been limited to 10 trays, and nothing else changed, there would have been an 8% reduction in total landings. Also, other tray limit assumptions include that they were made from 2012-13 catch data, which are a year old, and should be recalculated when 2013 data are available, assumes that catches were reduced by tray limits early in the season are not made up later in the season, assumes no stuffing of trays and also assumes no psychological "fishing up" to the tray limit. So, when looking at how many additional days that might get you, one day equals about a 7% reduction. Therefore, the 10 tray limit (8% reduction for divers) would get you on extra day. There are also some differences between early and late season divers and this may be due to weather and the shorter day length. For example, at a 4 tray limit, it would be a 53% reduction for early Zone 1 divers vs. a 44% reductions for late Zone 1 divers.

J. Leask: Did you take the average of the two?

M. Hunter: No I did not do that, but I could if you wanted me to.

D. Norris: You are free to choose your season. Does late season guys make up for it on price?

M. Hunter: There are definitely higher prices paid in December compared to the year round price. Last year the December price was \$3.06/lb. while the season price was \$2.38/lb.

B. Sutter: How many Zone 1 draggers are there?

M. Hunter: Well, the dealer data says 6, but the harvester reports indicate 4. However, the harvester data sometimes does not get turned in until they renew their licenses, so it is incomplete.

C. Richardson: So, the tote limit information that you presented was not lumped together for both divers and draggers?

M. Hunter: No, you would have to weight it to put it together and I havnt done that.

C. Richardson: Do the dealer and harvester data logs match up?

M. Hunter: No. Overall the number of landings comes pretty close together, but who caught what doesn't match what the harvesters report. I don't trust the dealer data but harvester data is not turned in in a timely fashion until they renew.

T. Sawtelle: Why didn't you present the different diver and dragger tote options last year to the council?

M. Hunter: That was because there is not a lot of difference between diver and dragger catches in Zone 2.

T. Sawtelle: Also, your math was off on the days and options last year. If you added then together, it didn't add up.

M. Hunter: That is because I assumed that people would not fish up to the tote limit as I based it on harvesters past catches. So the math doesn't add up.

J. Leask: So, for what you presented for Zone 1 divers and draggers, it is not combined?

M. Hunter: I assumed that you wanted to see similar conservation savings, so I presented that for both the divers and draggers because their catches are so different in Zone 1.

C. Richardson: Does the Commissioner want a reduction for next year in Zone 1?

T. De Graaf: We have yet to see the assessment results as we base our management recommendation on that advice.

B. Preney: Some of the impetus for the Zone 1 tote limit was for more days. Is this within what you were thinking Clint?

C. Richardson: No, I don't want an 8 tote limit, personally. But, I realize that I do not represent my own interests when I serve on the council, I represent others and understand that industry may need to take a hit.

J. Campbell: You need to table this discussion until the meeting can be held in Zone 1 so those guys can be part of this conversation!

J. Leask: Trish and were already talking about this and I am going to propose that the next meeting be in Hallowell.

J. Campbell: I don't have a 38 day season - you cant restrict me further! I only get 10 days of the 15 that are given to ys ad there are only 19 of us divers left in Zone 1 that are active!

J. Leask: It is not just a tote limit. It is also about opening up an August dive season in Zone 1 as well.

J. Campbell: It needs to be viable for us.

B. Preney: The buyers were begging to get a steadier supply over a longer period of time. If we took less every day, we could go longer.

J. Campbell: I don't buy that. It takes \$10 to buy a Styrofoam box and ship them to Japan.

B. Preney: You either buy or ship. If you don't have a longer, steadier supply we will lose them. We have lost some buyers/processors already.

T. De Graaf: Ok, we need to move the discussion to Representative Devin's Bill. We can pick this conversation up later in the meeting. Thank you gentlemen.

DISCUSSION: Mick's Bill

B. Sutter: Welcome Representative Mick Devin, Representative Walter Kumeiga and Senator Chris Johnson of the Legislature's Marine Resources Committee (MRC).

M. Devin: I have served on this council with most of you. I want you to know that Senator Johnson & Kumeiga are up here on their own dime. They are here because they are committed to helping you guys. The MRC was approved to have 2 meetings in Dec on the 5th & 13th; these are the best dates we could provide for you guys and your fishing schedules as they are not fishing days. On those two days, provided there is a reason to discuss this bill, we will have preliminary discussions on this bill. I want to apologize for my absence last month and not being here to the last meeting.

B. Sutter: The first thing to look at is to get some information from the Commissioner; we are pretty well along on the FMP. There are a number of issues in that many of the things we want to do we are not able to at this time. You will need some input from the Commissioner on what authorities he will need to accomplish some of these things.

M. Devin: The Commissioner or his representative is at all MRC meetings, so we will have his input.

B. Sutter: Perhaps we can come up with list of things the Commissioner will need in order to accomplish those things. What is he lacking in his authorities that he will need to accomplish these things with? The only thing he can do now in terms of enhancement is to issue an aquaculture lease, which at \$100/acre that is a non-starter. If you had a place where there used to be urchins, but none now and you put some urchins there and someone else can take them – you won't do it. So that is the place to start.

W. Kumeiga: The Commissioner, through rulemaking, has more flexibility to do things.

B. Sutter: No, not through rulemaking. One of the goals is to increase the availability of urchins to keep processors in business. Maybe through sea ranching. It is not aquaculture that is a non-starter. The Commissioner does not have the authority to establish a conservation zone to do something different.

T. Sawtelle: What would be the end result? If you have this area that is good, what are you doing to do with it? By giving the Commissioner a little bit of power to do so, what is he going to charge for that? What is the price?

B. Sutter: We are not talking about a lease; we are talking about a group of individuals in the fishery.

D. Norris: The goal should be to augment the overall fishery rather than to privatize the bottom.

B. Sutter: You cannot do it unless it is privatized in some sense.

D. Norris: You could set it up where some people could put in their time. You return something to the wild fishery and make a little money in the meantime. We have competing interest here. We need to be wary to do anything that privatizes the bottom.

T. Sawtelle: Say you have a little piece of bottom that you want to make productive. Surely folks who help out should have ability to harvest. How does it work if there is not a public hearing?

J. Campbell: The Commissioner has special rulemaking powers [Special License]. Shouldn't we do it that way?

M. Devin: The tool does not exist in tool box to carry out any of the ideas that you have been discussing.

B. Sutter: And if want to do it in an area with urchins, people will have issues. If it is an area with no urchins, then people won't care if it happens.

J. Leask: What tool doesn't the Commissioner have? You want them to create the wording to allow the Commissioner to do this? I assumed that when Mick Devin came here, you would present your bill.

M. Devin: As I said before, I am working with you guys. What are some of the ideas that you have, questions you want answered? I have a good understanding of the fishery; Representative Walter Kumeiga and Senator Chris Johnson both know the legislature and rules. We can take the next steps. Between now and then there will be contact and communication between the MRC and DMR. Unlike most committees, we have a solid relationship with Commissioner and his staff.

J. Leask: We have discussed how we are an advisory board and how our advice is not heeded. I want that addressed.

B. Sutter: Last time this happened was for the FMP legislation. We wanted species specific councils to have equal input on developing the FMPs.

C. Johnson: If you went through a process and feel that your advice is ignored, then we want to hear from you. All our public hearings are open to the public.

W. Kumeiga: Our committee is also really good at killing bills. If you think there is something you want to do, we can do it. But if you think this is going to create more problems, then we can kill it.

B. Sutter: We started the FMP two years ago, and we followed a philosophy in creating goals and objectives together. We have created a draft FMP.

M. Devin: So, the council has been working on this for two years, to get to where we are now?

B. Sutter: The people that came to the meetings put this document together.

J. Campbell: Is this bill going to be industry wide, scallops, etc??

T. De Graaf: No, this would be for urchins only. So, other commercial fishing activity, such as lobstering for example, could still occur in the area.

M. Devin: This bill aims to change management. Current management tries to use a blanket approach from one end of the state to the other. The bill aims to address issues locally. WDB area has good recruitment and had a lot of urchins and they cleaned out the kelp. I have heard that with tote limits and limited harvest that you have improved the quality, harvest fewer animals but they are higher quality – so it seems to be working. Then there is Casco Bay - that was fished out now for 15 days and not much coming back. They are both very different areas and we should be managing them differently. Maybe we need to transplant urchins from the wild or take hatchery urchins and do some sort of enhancement. Maybe you need to do something different in Casco Bay than what you are doing in WDB. You know things that managers, scientist and we don't know. The rule would be to give you guys the ability to set up an area and manage in a particular way based on the industries input.

J. Campbell: So, the Bill would give the Commissioner ability to do something different.

M. Devin: Now you have very few tools to manage the fishery and only one approach for whole fishery. The Bill would allow you to do something different.

D. Norris: There should be very close involvement with the SUZC due to knowledge. I want to have a tool to augment harvest for processors. Also, based on experience, when a bill goes in it comes out very different.

M. Devin: But that is the trust in me that you have.

D. Norris: We don't want to accidentally give the Commissioner a tool that would turn the industry upside down. We don't want every fishermen feeling that their backyard will get take away from them. We want to augment dead areas because we think we need the biomass at this point to keep the fishery alive. I would also hope that we at least could have a science committee meeting to hash this stuff out so we can get on the same page before the work session on the December 5th.

T. Sawtelle: I think there are a lot of advantages to doing it.

C. Johnson: What you are really trying to come up with is identifying the constraints along the coast and identifies different strategies to be applied to it. Given the different circumstances along the coast, the Commissioner needs the ability to manage appropriately. If there is an area that is viable and doesn't need enhancement, while others may need new strategies to enhance the resource.

B. Sutter: One size doesn't fit all. In order to do something different, the Commissioner needs new tools.

W. Kumeiga: Say someone has a brilliant idea. What do you think the process should be? Should they come to the council to get it approved?

B. Sutter: I don't think so, but others may disagree. We want people who are current license holders to do this, not some company with big bucks. People don't want bottom to be privatized. But, in an area where there is no commercial fishery and someone wants to enhance, they should be able to do so with some protections.

W. Kumeiga: Say 10 guys that want to do a project, but what if one guy wants to leave, he can't transfer that right.

T. Sawtelle: Down in Cobscook, the more times you do something to do something better, we get everyone else there. With scallops, we were the first ones to have the meat count. First ones with tote limit for urchins. We asked that WDB be closed to urchins in addition to scallops also. We were supposed to be able to come up with a management plan ourselves, but were told that we couldn't by the DMR. Now it is opened up, and people who traditionally fished there can't like before and everyone else in the state now fishes there. If you want to fish in that area, you should be restricted to our lower scallop limit and shorter season everywhere, not just in Cobscook. But that didn't move forward.

B. Sutter: Dean lives in Livermore and fishes Downeast, while I live in Wiscasset and I fish around there. The tradition is both [to stay put and travel].

D. Norris: But you can have different rules for an area and preserve the mobility. Everyone should be able to move, but it shouldn't be working against the resource.

T. Sawtelle: When we were at the meeting, we were told that we could come up with our own management plan and that was the only way we would agree to closing the WDB to urchins. George LaPointe and Togue Brawn told us we couldn't – no offense to Trish, she does a good job and that was before she came on.

T. Smith: We want to be able to put urchins in cages. When the buyers/processor numbers go lower, markets, weather, you can cage and hold them. I would like to see cages. Lower processing license fees as I feel that I should be able to take my urchins and process them and sell them locally. I can use the local coop's processing facility. Right now you are only allowed 7 totes worth of urchins in cages over a dock, but not allowed to take them from a boat and have a cage off a boat and pull it in. We want to be able to hold at least a week's worth of sea urchins. I know guys who would like to be able to hold 3 days' worth of urchins and run them down to Tamaki in Portland, at a minimum. Processor license fees, cages to hold urchins through winter for prime price in March, or hold through summer for early Sept market. Need to rehabilitate some areas that have some sea urchins. The Commissioner should be able to allow some people to go experiment with areas that are totally empty of sea urchins to raise the biomass in conjunction with cages.

B. Sutter: These are all the tools that are not available to the Commissioner, we will get there. Everything you said, those are kinds of things that may be necessary to do in order to revitalize the urchin industry.

J. Wadsworth: You just got done telling everyone how great these sites are looking. Something good is happening.

B. Sutter: Yes, we also have had a big die off last year. We also have a survey that gives us some idea of where everything is going.

J. Wadsworth: Those observations don't jive with what these guys are saying. Chuon has also changed his tune saying that he doesn't need all those urchins now.

M. Devin: So, from what I have heard, you need input from the Commissioner on what tools he needs. You want to make sure that bottom is not privatized. You don't want to give the Commissioner a *carte blanche*.

B. Sutter: We have a DMR Advisory Council that has oversight over the rulemaking process, and the chair of this council [me] sits on that council. The SUZC wants to have some role.

W. Kumeiga: Most of this would have to go through rulemaking.

M. Devin: You want specific areas to be identified ahead of time where fishermen may utilize this particular area, such as Casco Bay being identified to have a special management plan.

W. Kumeiga: Maybe Casco Bay is too big, but perhaps a section of it.

M. Devin: You want to see a sunset on this as well? Do this in a way that it is a pilot with a time scale. 5 years, 10 years, some sort of time associated with it?

B. Sutter: There needs to be time limits on it to tie it up, but you need enough time to make it work.

T. Sawtelle: It should be a renewable thing, because it would be horrible to open it right up and it gets wiped out.

M. Devin: So reviewed and renewed.

W. Kumeiga: Like the limited access areas for scallops, for example.

C. Johnson: You want a different class of management action for a recovering area. Progression from enhancement work, restricted fishing to those people to get a return on their work and then that go into a different management practice.

D. Norris: Say 20% of biomass can be sold and pick particular times to harvest it. Be completely free to sell at any time.

B. Sutter: With an aquaculture lease you can do that now.

M. Devin: Are there are key points that I have missed on my list?

T. Smith: Protections – if someone goes in there and poaches, it should be a criminal offense.

D. Norris: They need to be big enough areas that make sense, as small areas are hard to enforce.

M. Devin: That goes back to identifying specific areas.

B. Sutter: There are other fisheries that would occur in those areas however.

T. De Graaf: Correct, other fisheries can still occur, lobstering, etc...

B. Sutter: Or it can't harm other fishery species to thrive.

C. Johnson: One of the things we have as a requirement on the FMP is an assessment of the ecological impact of a fishery. It is a two way thing. The kelp – it is not a fishery right now, but it is something that urchins needs. They are depended upon a healthy resource of kelp for healthy urchins.

B. Sutter: Someone with a really nice bed of kelp species would not want a lot of urchins there.

T. Smith: We need to identify that there are very few people that want to do this. The Commissioner should put out a letter to ask who wants to be part of the pilot program. You might get 10 at the most. Then, those people need identify a spot. Then the state needs to go look at those spots. Then you go rehabilitate that area. I think there will be few people who want to do it, but once you come up with a method you may be able to id how to do it.

M. Hunter: If you get a pilot program going, will the results of this pilot be public?

T. Sawtelle: If the DMR is aware of it and knows.

M. Hunter: We will know but can publish it, at least not with Special License right now.

M. Devin: you are only limited when you are 3 or less entities. Back to Casco Bay, if there were just a few people doing it, it is still part of the larger fishery.

M. Hunter: I could publish landings from Zone 1, but I can't publish landings from that specific area.

D. Norris: That should be public information.

M. Hunter: So you are saying that the project should be assessed in some way, and I am not sure we can do that.

B. Sutter: Say you want to increase the biomass; wouldn't it be advantageous to create that entity so that it is not subject to the laws that govern the current fishery? Right now we have a minimum and maximum size, maybe that doesn't fit for this project. Maybe these limitations should not apply.

J. Wadsworth: You will take all the big urchins from the wild fishery and put them in this area so you can harvest them!

T. Smith: You can do that right now with an LPA.

B. Sutter: That is not true. You can take urchins and put them somewhere else. But you can't have them on a closed day.

L. Harris: If this is supposed to be to promote a fishery that is more sustainable and improving areas, the information needs to be public. If a fishermen has the protection that they are in control of a piece of bottom for a finite period of time, that is the incentive for them. The whole idea is to promote and get information out there so others might want to do that sort of thing. It should be public.

D. Norris: But we don't want to create a road map for China to take our knowledge.

J. Leask: It can benefit us. WDB is a success story as urchins came back.

L. Harris: But how you manage that are is different than having an area with no urchins to begin with. With the protection of this area we are the only ones that can fish it and profit from it, that information should be public. There is a ton of information about how other fisheries are managed, we shouldn't have to worry about China coming and taking that knowledge.

J. Leask: They have been already doing this.

L. Harris: What happens in Casco Bay is not going to matter in WDB.

J. Leask: There is a certain amount of information that should be shared. The survey for instance – good survey stations are advertised to industry. I have done this all before. The secret is the tide in Cobscook – if you look at exposed edges, you will see urchin reproduction repopulating on adjacent edges down the tide line. The bottom line is the resource must be increased. Maybe down the road we could add more divers. The information must be privatized in some fashion.

L. Harris: When we spoke about logbooks, we agreed that it shouldn't be so specific. We are talking about identifying a group of people who want to make a profit on their efforts – that should be public information as that is a "closed area" for experiments initiated by fishermen.

B. Sutter: The methodology to achieve the success should be public?

L. Harris: If you are asking the state for a piece of bottom for a specified period of time, yes. You will be benefiting the surrounding area with increased spawning and larvae. But if you are given control over a piece of bottom to manage, the state is giving you that and you want to demonstrate that you can bring it back and make money at it.

J. Leask: I think there is a balance there. Everything comes down to you can work an area, you should profit by it because you are doing the work and the state gave you those rights. We need to look down the road at a way to add younger people to the fishery. I have seen evidence of the resource coming back. But in the meantime, there should be an option for folks to come in. Information that any of us has is going to go by and nobody is there to learn and pass this information on it. We are losing a vital component to our fishery.

B. Sutter: We have all seen the angst in the lobster fishery due to the wait list, what are you going to do about this?

C. Johnson: We will be wrestling with this issue in the coming session.

B. Sutter: Look at Massachusetts. It is a tough issue.

J. Leask: We need to create a vehicle to add people.

D. Norris: The Commissioner has the authority to do this already.

J. Leask: If we don't do something now we won't have an industry. We are trying to increase the biomass.

W. Kumeiga: Not just with urchins, with scallops too. We need to figure out what might be a good number of licenses and trying to get there.

B. Sutter: It can either be that one person can have it all or everyone has a little.

T. Sawtelle: There is no way for a kid to do this now. For lobstering, they need to start when they are 14 years old to get hours by they are 18 and that is with a lot of help from their parents. What if their parents work? It is impossible!

C. Johnson: There are also people on the wait list that want in.

B. Sutter: The less the economy is in an area, the more important it [access] is.

J. Campbell: Where did this bill come from?

M. Devin: I submitted this to the council.

T. De Graaf: No, that is not correct. The council and the DMR found out about it after it was submitted. It did not come from the DMR.

M. Devin: I submitted the bill and then spoke with the council in March about it.

J. Campbell: Is the federal government putting pressure on DMR for this legislation?

T. De Graaf: No, this is a state managed resource. However, the DMR is open to new ideas regarding ways to manage.

J. Wadsworth: But WDB worked!

M. Devin: But nothing was done on how to figure out how to properly manage it when it was reopened. Consequently, we are currently looking at how to manage on the appropriate scale. Give the Commissioner tools to do it.

T. Reno: Are you saying that WDB is right? I am going to wipe out all the hot spots before the late guys even get in there. With the full moon the other day with a big tide, another big boat was right on top of me while I was diving! Now you are going to put the draggers in front of me so I will have no sight!

T. Sawtelle: The divers are in there now before the draggers!!!

T. Reno: It is not right, it is not fair! If OSHA [Occupational Safety and Health Administration] was involved in this industry, it would be shut down now. Visibility is going to be horrible!

T. Sawtelle: What did you do before it was closed when we were all in there at the same time?

T. Reno: They were towing everywhere, and we were diving. But if they had the option to allow us to fish safely, then they should!

C. Johnson: If we are going to give a privilege to someone to develop an increased in the resource, there needs to be some reporting requirements that document this recovery. With that privilege to work that area, there is a responsibility to report on your progress.

B. Sutter: If you grant the privilege of doing this, along with it comes the requirement to report your progress. Input and an outtake - some sort of monitoring on how things are going. Even if it fails, that is a report on it.

B. Preney: It sounds like it is a done deal – area management and aquaculture. I have watched it creep into this room, into this council. Now there are enough people involved; now you are here as a member of the committee and speaking like it is already passed. While there are people who toy around and work their own urchins, I think 90% of people would be against this.

C. Johnson: I don't think it is aquaculture.

J. Leask: Brian defines taking a piece of bottom as aquaculture.

C. Richardson: You are not feeding them.

B. Preney: This is the reason I am on this council and we are getting sold on area management. Sherman Hoyt at the Birches said everyone was for area management at a meeting I was at a while back and it is not so. Area management has been driven into us. It has crept into this room and it is here. I have been diving for many years and I have dove a lot of Zone 1. There are already urchins there and they are dying. Casco Bay urchins are dying. Why does somebody think they are going to take the grant money or the SUZC money and will take a piece of the bottom and put urchins there? They will die, it won't work.

J. Leask: You like the Sheepscot, it was prolific and there was a die off there. Some of the stuff is out of our hands. If I want to come to a dead piece of bottom and reestablish it and release it to the public domain, I think it is a good thing. I have watched our industry go downhill. I share your concern for aquaculture privatization. But I firmly support a guy

putting the work in, like clamming to be mandated to put conservation work in. I don't know if I could take 7 totes and move them and then go back and get 7 more – if that is legal.

B. Preney: But people can't do it.

J. Leask: When Amanda did it, she did it wrong. I can do it correctly. I believe in the Sheepscot, areas in the state that can take route there.

B. Preney: We are in a corner right now and whether that little corner can make it remains to be seen. How come after I complained about the die off the DMR can't come out with a report on this? They didn't even go out to look at it.

M. Hunter: We didn't hear about it until after it happened.

C. Johnson: But a moment ago, you just agreed that conservation work would be something you support. This would provide you with some protections for that.

B. Sutter: 18 years we have been doing this and in that time what improvements in the decline have we made?

B. Preney: We were doing well, but something happened with Mother Nature.

B. Sutter: The world is changing. I am really appreciative that you folks came tonight.

M. Devin: I wanted to get some ideas of what is important to you guys. Dean you said that you wanted the Research Subcommittee to meet prior to the next meeting, but this is fisheries management, not a science project.

T. De Graaf: I would not be able to host a Research Subcommittee meeting prior to Dec 5.

J. Leask: Is the public allowed to speak at your committee meetings?

C. Johnson: When we have hearings, then yes. If it is a work session, then we use our discretion. What we are looking at here is discussion with the industry. We will continue to talk to with the DMR afterwards.

D. Norris: We don't have anything on paper yet, no specifics.

C. Johnson: We have to know enough for the tools that the Commissioner needs.

B. Sutter: For the FMP, the same types of issues will be the same for the scallop fishery. Many issues in the FMP will grow the tool box.

M. Devin: I think that is why you guys can lead the way with the FMP.

J. Leask: Is it possible to write this bill so it could help scalloping?

M. Devin: it would be too complex. We are forging the path along the way.

C. Johnson: Each fishery is specific to its needs.

J. Leask: Our tagged codfish are being caught in Iceland. Some of the dynamics we are dealing with are not specific to urchins. There is definitely a change in the ocean bottom, I can see it. Invasive seaweeds. Urchins are the best cleaner of our bottoms. Our water quality affects all of us. I cut into an urchin and there is a disease in them. There are factors going on in our oceans that drive our species.

C. Johnson: While there are large scale changes that affecting species, there are also local effects like fishing effort that we can control.

J. Leask: I don't think that any one thing we do will fix our industry. I think urchins are tough, groundfish have fins and can swim away. Urchins don't move all that much, but tide can make those urchins really good, really quick. If you can give the Commissioner a bit of power, but not too much - absolute power corrupts. I want our council and industry to have a strong say in what goes on in this. Years ago, this council made a recommendation and the commissioner completely ignored it.

J. Wadsworth: It was ugly when it happened, but it worked out.

J. Leask: We can't depend on urchins for our entire years pay anymore.

B. Sutter: Is there anything else that we can fill you in on?

M. Devin: I think the best thing to do is to get out what was discussed here. I will try to get out by email by Sunday to the email list that Trish gave me and I will include the co-chairs what I have gathered here tonight.

T. De Graaf: I will also try to turn these minutes around by early next week.

M. Devin: We will go from there. We will continue to talk about this Bill on December 5 and 13. We don't go into session until January.

W. Kumeiga: Since it was carried over, we need to vote on it by January 21.

T. Smith: We also need to hold a week's worth of urchin!

M. Devin: Yes, I wrote it down.

DISCUSSION: August Dive Season

T. Smith: When Chuon was here to talk about it at the last meeting, if Zone 1 opened in August there was not enough product from just them.

T. De Graaf: He also said he could use the product as he already processing Nova Scotia urchins.

M. Devin: What about quality at that time of year?

J. Leask: We used to have a fishery at that time of year. There are two major holidays in Japan and the Festival of the Dead is in August.

M. Devin: I collected data on roe, and it will be of a lower quality at that time of year.

J. Leask: This year was an anomaly, a lot of pin muscles which is an indicator for good urchins.

B. Sutter: Pin muscles, up high urchins and in the surge. When Zone 2 was wild, would mess around with it. Now we have a tray limit, if we had a limit them, maybe those numbers would have been better.

J. Leask: Two years ago things flipped in terms of quality. By late summer, those urchins are coming around. I heard of a guy cutting out 20% in Cutler this year. Some guys are knowledgeable and they can get a good urchin every day. Same urchin is worth the same amount in August, despite the lower quality. We would be the only game in town.

J. Reno: They are diving in Tadousac [Quebec] then.

J. Leask: Historically, December is best price. September has been good too.

J. Reno: When is worst?

J. Leask: October. I think Zone 1 draggers should be harvesting in late February or early March as good price and may give a the urchins a better chance to reproduce.

B. Sutter: This year Zone 1 late is in January.

D. Norris: We used to get good urchins in May.

J. Leask: I am a tender in Zone 1, and I would like those guys to get the most money out of their 15 days. They can get a better price around the 13, 14 and 15 of August for that holiday. To get them there in time, Atchan needs the urchins before the 7. He needs to ship out on the 8 to get them there on the 10 before the holidays when everything is closed.

B. Sutter: There is no restriction from letting you do that now.

J. Leask: Correct, as long as it is after August 1.

B. Sutter: So when the Zone 1 divers pick their days, they can put some of them in the first of August.

J. Leask: But the processors need the whole month too. I was against the 7 totes, but I see the benefit now.

D. Norris: It is a gamble as Russia can wipe us out [in terms of price].

J. Leask: But we have the quality.

D. Norris: I have looked at the urchin market for years and I was the one who showed other people how to look at this. From a year to year basis, that holiday gets wiped out.

J. Leask: Could you find those numbers and bring them back to us? What was the poundage landed prior to the holiday? I spoke to Jamie Keo and he said that is a huge market and there are no other urchins around.

D. Norris: He is buying in St Lawrence, but only at certain times can the south shore can fish, north shore can fish anytime. You have got pick your days. Obviously Atchan and Jamie are trying to fill a hole. But they are already set up as processors and other ones are not set up. Just be aware that you are taking a risk on those August days with your price.

B. Sutter: Once they hire their crew and open their shop, where are they going to get their product from for those other 3 weeks in August?

J. Leask: They are open already processing Canadian urchins.

D. Norris: Tamaki is open all the time anyways.

J. Leask: I am in Atchans almost every day. He has so much going on that some of his crew is transient while others are species specific skilled workers. We can't base what we do on Atchan. August we will make better money based on the holiday and based on availability of the product.

B. Preney: I make a motion to table the issue and members of the council poll their members before the next meeting.

T. Sawtelle: I second it.

B. Sutter: Motion to have it on the next meeting agenda.

VOTE: Unanimous – Motion Passed. August Dive Season Discussion Carried Over to Next Meeting

J. Leask: I would like to make a motion that the next meeting be held in Hallowell as the majority of the issues to be discussed are Zone 1 issues.

T. Sawtelle: If they are Zone 1 issues, then we should go down there. Ill second it.

J. Campbell: If they are going to put legislation in, I would like Pat to come to the meeting so we can get a feel for what he is thinking.

T. De Graaf: I will pass it along to him. If it is in Hallowell, it will be more likely that he can come.

VOTE: 8 for, 0 against, 2 abstained – Motion Passed. Next SUZC will be December 13 at 4pm in Hallowell.

OTHER BUSINESS: The Whiting & Denny's Bay Dive Issue

T. Reno: I don't see why divers need to go second after the draggers.

T. Sawtelle: Scallopers start December 2 in Cobscook and all that will filter up into WDB anyways.

T. Reno: There is a lot of difference between towing below the falls than above. This is a safety issue. It is not about getting the product first.

T. Sawtelle: A little bit ago you brought up the fact that you were getting them first as an issue!

T. Reno: The drags bring up all sorts of stuff!

B. Sutter: Did you go to any of the public hearings for setting the season so your input could be considered?

T. Reno: I go to as many as possible, but I have small kids.

B. Sutter: You can also write in.

T. Reno: I just want to know why. It is a safety thing. I wouldnt care if you let those guys go in long before we started. That guy just about blew my mask off the other day!

D. Norris: Who was it?

T. Reno: Justin Gebo.

T. Sawtelle: He is another diver, not a dragger!

T. Reno: We were diving close to one another. Tide came up and wind. It is just dangerous.

T. Sawtelle: Did you choose to go diving and put your life at risk?

T. Reno: I also paint houses.

B. Sutter: Well, next year pay attention and be part of the conversation about setting the days.

T. Sawtelle: Since we are into this stuff, if you have an urchin and a scallop license, a dragger can't go scalloping very much. There are 16 days that are scallop only and a diver can go 40 days, out of a total of 50 days because of the different calendars. The scallop council has made their days almost the same as the urchin days every year!

B. Sutter: You can keep urchins from a scallop drag though.

T. Reno: Didn't you keep your urchins last year when you were scalloping?

T. Sawtelle: No, we towed the urchin drag first and towed the scallops up and threw them over. Then had to drop urchin drag and go pick up a scallop drag and go drag that same scallop up twice!

B. Sutter: The urchin drag does not meet the scallop gear configuration requirement for the 4 inch ring. DMR adopted the 4 inch ring because of the federal requirements.

J. Leask: Urchin drags can move boulders the size of a house!

J. Campbell: Lets get rid of dragging!

T. Sawtelle: That's fishing! Divers can see everything, so that is laboring!

J. Leask: I would like to MOTION – put gear modifications on the next meeting's agenda.

VOTE: Unanimous – Motion Passed. Gear Modifications for Draggers to be put on the next Agenda.

Meeting ended around 8pm

Appendix A

Trisha De Graaf's Slide Presentation

Sea Urchin Zone Council Meeting

November 21 2013, Bangor, ME

- I. Welcome and review of agenda
- II. Approval of last meeting minutes (10/17/13)
- III. DMR Update
 - I. 2013-14 Season Update
 - II. Zone 1 Tote Limit Options
- IV. Discussion: Rep. Devin's Urchin Management Bill
- V. Discussion: Zone 1 Tote Limit
- VI. Discussion: August Dive Fishery
- VI. Set Next Meeting Date & Time
 - Thursday, December 12 in Ellsworth? (not a fishing day for anyone)
- VI. Adjourn

Alternative Management Strategies Review

Habitat-base Management

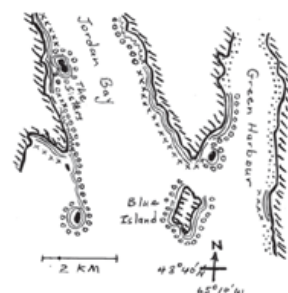
- Production bottlenecks are opened up by manipulating the balance between the target species and its resource
 - Altering physical habitat
 - Adding prey/food sources
- **Nova Scotia**
 - Exclusive Fishing Zones (Spatial Property Rights)
 - Based on TURF system in South Pacific and community management in Japan, India, Chile & Mexico
 - Individuals had exclusive access & responsibility to manage & increase stock in area

Alternative Management Strategies Review

Results: Modest or no improvements

- **Negatives:** Overall results attributed to vastly different management approach, lack of communication, unexploited resource, no new licenses issued & disease killed resource before assessed.
- **Positives:**
 - Zone maps were successful: as were able to maintain higher yield.
 - Higher prices & less time searching as not competing & sell at peak \$
 - Self enforced by fishermen
 - Reduced costs for management

Map of most of one sea urchin fishing zone in Shelburne County



Symbols show kelp and sea urchin distribution: ooo-harvestable sea urchin feeding front, xxx-sea urchins too small for harvest, single line-deep edge of kelp bed <3 m, double line-deep edge of kelp bed 3-6 m, wavy line-deep edge of kelp bed >6 m, stipple bottom unsuitable for kelp or sea urchins (mud, sand, or loose cobble).

Appendix B

Margaret Hunter's Slide Presentation

Daily Tray Limits for Zone 1

The following data are from Zone 1 harvester log books from the 2012-13 fishing season, and were incomplete when downloaded July 2013 (included 19 divers and 4 draggers)

	<u>Dive</u>	<u>Drag</u>
Avg daily trays	8.5	15.1
Avg daily catch (lbs)	690	1,282
Median daily catch	660	1,434
Lbs/tray from port samples	82	85
N catches	191	33

Daily Tray Limits for Zone 1 Divers

If individual daily diver catches (from preliminary 2012 harvester report data) had each been reduced to the following number of trays, a reduction in landings might have been achieved. This assumes a 90 lb tray for divers, and assumes that fishing behavior is identical to 2012:

Tray limit	4	5	6	7	8	9	10
lbs/tray	90	90	90	90	90	90	90
Lb Limit	360	450	540	630	720	810	900
% reduction	50%	40%	31%	23%	17%	12%	8%

Daily Tray Limits for Zone 1

<u>days</u>	<u>% of season</u>
1	7%
2	13%
3	20%
4	27%
5	33%
6	40%
7	47%
8	53%
9	60%
10	67%
11	73%
12	80%
13	87%
14	93%
15	100%

Daily Tray Limits for Zone 1 Divers

There was a difference between Early and Late season divers (Late didn't do as well):

Early Season Zone 1 Divers							
Tray limit	4	5	6	7	8	9	10
lbs/tray	90	90	90	90	90	90	90
Lb Limit	360	450	540	630	720	810	900
% reduction	53%	43%	34%	26%	20%	14%	10%

Late Season Zone 1 Divers							
Tray limit	4	5	6	7	8	9	10
lbs/tray	90	90	90	90	90	90	90
Lb Limit	360	450	540	630	720	810	900
% reduction	44%	33%	23%	15%	10%	6%	3%

Daily Tray Limits for Zone 1 Draggers

Tray limit	8	9	10	11	12	13	14
lbs/tray	95	95	95	95	95	95	95
Lb Limit	760	855	950	1045	1140	1235	1330
% reduction	53%	48%	43%	38%	34%	30%	26%

Tray limit	15	16	17	18	19	20
lbs/tray	95	95	95	95	95	95
Lb Limit	1425	1520	1615	1728	1843	1960
% reduction	22%	19%	16%	12%	10%	7%

Daily Tray Limits for Zone 1

Potential Value									
Assume	90	lbs/tray							
Trays	4	5	6	7	8	9	10	11	12
Price/lb									
\$1.50	\$540	\$675	\$810	\$945	\$1,080	\$1,215	\$1,350	\$1,485	\$1,620
\$1.75	\$630	\$788	\$945	\$1,103	\$1,260	\$1,418	\$1,575	\$1,733	\$1,890
\$2.00	\$720	\$900	\$1,080	\$1,260	\$1,440	\$1,620	\$1,800	\$1,980	\$2,160
\$2.25	\$810	\$1,013	\$1,215	\$1,418	\$1,620	\$1,823	\$2,025	\$2,228	\$2,430
\$2.50	\$900	\$1,125	\$1,350	\$1,575	\$1,800	\$2,025	\$2,250	\$2,475	\$2,700
\$2.75	\$990	\$1,238	\$1,485	\$1,733	\$1,980	\$2,228	\$2,475	\$2,723	\$2,970
\$3.00	\$1,080	\$1,350	\$1,620	\$1,890	\$2,160	\$2,430	\$2,700	\$2,970	\$3,240
\$3.25	\$1,170	\$1,463	\$1,755	\$2,048	\$2,340	\$2,633	\$2,925	\$3,218	\$3,510
\$3.50	\$1,260	\$1,575	\$1,890	\$2,205	\$2,520	\$2,835	\$3,150	\$3,465	\$3,780
In 2012, the average price/lb in September was \$2.38 (preliminary)									
and the average price/lb in December was \$3.06 (preliminary, both zones)									